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# The War Demonstration Hospital

*Its Plan and Construction*



New York

The Rockefeller Institute  
for Medical Research

1917

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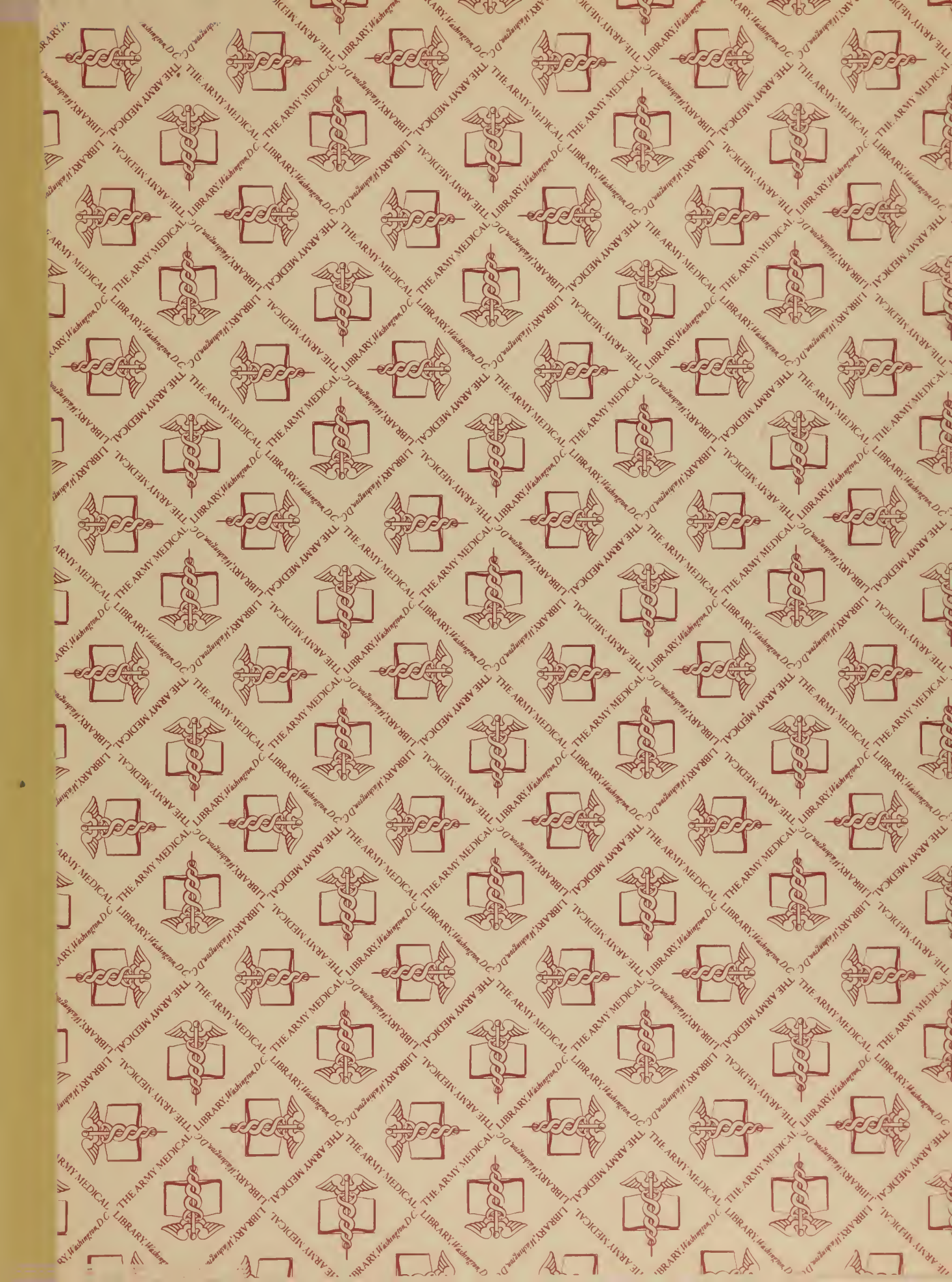
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# The War Demonstration Hospital

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*Its Plan and Construction*

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New York  
The Rockefeller Institute  
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July 1 — Bird's-eye View — War Demonstration Hospital  
Buildings of Rockefeller Institute for Medical Research in Background

# The War Demonstration Hospital

OF THE ROCKEFELLER INSTITUTE  
FOR MEDICAL RESEARCH

*The object of this pamphlet is to give a few essential facts about the plan and construction of a temporary hospital which has been built upon the model of a recent base hospital actually in use on the Western Front.*

*When the Rockefeller Institute decided to establish a small hospital service for the treatment of infected wounds by the methods worked out by Dr. Alexis Carrel and Dr. H. D. Dakin, and to demonstrate to American surgeons who may be enrolled for service abroad the technique of this method, it was thought worth while at the same time to set up a demonstration service in pavilions which would imitate war conditions, and test the feasibility of a unit portable military hospital designed by Mr. Charles Butler of New York, who has made a thorough study, under the French War Department, of the military hospital units developed in France and England.*

THE planning of barracks, cantonments and base hospitals is one of the problems of the hour. It is the purpose of the Institute to make a contribution to the solution of this problem by illustrating one system. Critical inspection will be welcomed. The Institute will be glad to supply more detailed information whenever possible.

Base hospitals are seldom moved in toto, and the fact that a particular kind of construction can be knocked down and put up in a certain number of hours is not the most important consideration. The shifting demands imposed upon base hospitals by changing seasons and war plans result, however, in changes of particular units. For this reason the flexibility of the knock-down construction is an advantage:

it is also an advantage because it simplifies orders, specifications and labor and transportation calculations. Shack construction would be cheaper than portable construction and would undoubtedly be expedient under many conditions. But knock-down construction is in wide use on the Western Front and such forms of construction will require consideration.

Experience of three years on the Western Front has demonstrated that improvisation and flimsy construction does not pay in base hospitals; tentage is no longer used. Heating, ventilating, and such kitchen, laundry and sanitary conveniences as enable the staff to give patients the equivalent of the care which they would receive in a reasonably equipped modern hospital are worth

## THE WAR DEMONSTRATION HOSPITAL

while, for they result in shortening the period of disability, reducing the recuperative interval and returning men to duty more rapidly and in greater numbers. The value of a trained soldier is so great that money intelligently invested in his care is money saved.

The War Demonstration Hospital of the Rockefeller Institute is a double-walled construction with a double roof. It is thus well protected both against heat and cold. The manner of supplying steam heat will vary according to local conditions.

The plan of the temporary hospital at the Rockefeller Institute was made by Mr. Charles Butler, a New York architect, who has for a year and a half studied French and British hospital construction in France; he collaborated with the French War Department in designing hospitals. Mr. Butler adopted the unit building system patented by the Humphreys Company of London. This system has been used at the Etaples Base Hospital and in other places. Numerous slight structural changes, made necessary by American building conditions, have been devised by Messrs. Marc Eidlitz & Son, contractors.

Mr. Butler's plan places the wards north and south with the service room at the north end and a terrace at the south end of each ward. North of the wards are such services as mess, kitchen and laundry; south of the wards are the administration, receiving and operating buildings. If the shape of the available lot had been different, this last group would probably not be south of the wards. It need not

and had usually better not occupy the southern side of the plan. Patients are entered at the Reception Building, passed directly to the Operating Building and thence sent straight to the wards. The Laboratory Building is larger than necessary because of the demonstration work planned at this hospital. Three dormitories and an isolation pavilion are placed where they do not interfere with the main plan of the services and are at convenient distances from the wards.

The accompanying illustrations show two or three aspects of the layout and illustrate the manner and rapidity with which the double panels of the Humphreys' system can be erected, and also illustrate such important features as the ventilation in the wards, which permits beds to be placed without reference to window location. A working drawing illustrates the manner of locking the demountable sections.

On the basis of this experiment, it is probable that such hospitals could be erected and equipped by union labor to which New York wage rates as of August, 1917, apply for approximately \$800 per bed for a 500-bed installation, plus \$100 per bed for an adequate power plant. In other parts of the country not governed by New York prices the cost should be appreciably less, much less if soldier labor were employed. In a small demonstration hospital having a capacity of at most sixty-six beds, a steam kitchen, laundry, etc., would not ordinarily be installed, but in view of the special object of this undertaking these have been included for the Rockefeller unit.



AVENUE A  
GENERAL PLAN



## THE WAR DEMONSTRATION HOSPITAL

### *Steam Laundries Economical*

It is interesting to note in this connection, that the French army medical authorities consider that steam laundries and kitchens are economical for any number of beds over 300. As the base hospital of to-day tends towards a capacity of 1,000 beds rather than 500, it may safely be assumed that it will always need high and low pressure steam and electricity from its own or existing plants.

### *Water Supply and Sewage*

The problem of water supply and sewage disposal, always a vital one in hospital work, is of course simplified by the location in the midst of the city. If no city system is available, a Waring or similar disposal system is used ordinarily; many are being installed on the front.

## II

### SITE AND ARRANGEMENT OF BUILDINGS

The site available for the hospital was an L-shaped lot, the vertical leg 460 feet long and 170 feet wide, running north and south along Avenue A; and the horizontal, 60 feet wide by 320 feet long, running east along Sixty-fourth Street.

The arrangement of the buildings was planned to save every unnecessary move for the patients, and at the same time serve every convenience of the surgeons and nurses. An arriving patient goes directly to the Receiving Pavilion, then to the Operating Rooms just back of it, and then to the ward adjoining.

### *Entrance on Avenue A*

The main entrance on Avenue A, just below Sixty-fourth Street, leads into the Ambulance Court. Immediately on the left is the visitors' entrance to the Administration Building, which runs north along Avenue A and at its north end is connected with the Laboratory building, which also runs north and south.

East of the Administration Building, forming the north side of the court, is the Reception and Discharge Building, in front of which the ambulances draw up to discharge the patients. On the south side of the court along Sixty-fourth Street are the Orderlies' Barracks, and east of this, in the L, are the Nurses' Building, running east along Sixty-fourth Street, and the Maids' Building, running north and south.

The east side of the Ambulance Court is closed by the Isolation Building. To the north of the Reception Building and parallel to it, and connected to it by a closed corridor, is the Operating Building.

The character of the property across the street made it necessary to put such buildings as these along the Sixty-fourth or southern front, where the wards might more normally have been located.

Closed corridors are provided only where patients have to pass from one building to another; otherwise the corridors connecting the pavilions are roofed but open at two sides.

### *Location of the Wards*

The two wards are placed between the east corridor and the Laboratory Building, connected to a transverse corridor at

## THE WAR DEMONSTRATION HOSPITAL



June 8—One week after work was commenced. Note arrangement of foundation posts and sills

their north or service ends and free at their south ends.

To the north of the transverse corridor and looking out on the service court are the Mess Hall for nurses, orderlies and maids, and the Recreation Building for convalescent patients. On the east side of this court is the Kitchen and on the north the Laundry, while the Stores Building occupies the northern portion of the west side, balancing the Recreation Building. The service entrance from Avenue A is between these two buildings.

The grouping of Kitchen and Laundry in close proximity to the Mess Hall and ward buildings reduces to the minimum

the labor required for the constant transport of food and clean and soiled linen. The frequency of this transport as contrasted with the infrequent trips of patients between the Reception and Operating Buildings and the wards was the determining factor in this arrangement.

### *Ease of Communication Essential*

In all war hospitals, ease of communication between buildings is essential, as all transport must be by wheeled vehicles, food cars, stretchers, soiled linen cars, etc.

Every war hospital will be short-handed at active times, and the difficulty



## THE WAR DEMONSTRATION HOSPITAL



*June 11 — Note building in centre of group. All wall panels set during erection, but roof and floor panels are not yet in place. Trusses, posts and floor girders lying in place ready for erection of Reception Building near south end of lot.*

of operating must be reduced to the minimum; hence the uniting of all buildings by slatted walks and the elimination of steps, differences of grade being taken up by inclines.

The ward buildings should be well separated from the quarters reserved for nurses, maids and orderlies, so that when the latter are off duty they may be able to make a reasonable amount of noise without disturbing the patients.

Had it been possible to do so, it would have been preferable, for this reason, to place the Isolation Building rather further from the orderlies' quarters.

The grouping of buildings has been assigned just as they would be at a field hospital. The walk-ways are an absolute necessity in the sea of mud in which one lives at the front, even if it is impracticable to cover them.

### III DETAIL PLANS OF THE BUILDINGS

The Administration Building contains the general waiting room for visitors, with the telephone exchange, a coat and toilet room for visitors, and offices for clerks,

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*June 14—Reception Building completed. Nurses' Home in process of erection  
Roof panels stacked just beyond building, ready to be dropped into place*

executive officer, superintendent of nurses, surgeon on duty and chief surgeon.

### *The Laboratory Pavilion*

Adjoining this the Laboratory Building contains a demonstration and lecture room, Record Officer's room, coat room and storage, the pharmacy with its waiting room for orderlies, and the chemical and bacteriological laboratories. Laboratories are supplied with water and gas and with electricity for both light and power. As has already been said, this building is arranged to meet the peculiar requirements of a hospital which is to be

maintained for demonstration and instruction.

### *The Receiving Pavilion*

The Receiving and Discharging Pavilion is in its present development a product of the war.

All wounded must be cleaned before being admitted to the wards. It has been found convenient to associate the storage of patients' effects and the discharging service with the admitting service. The Receiving Room into which the ambulances discharge is in the center, with the washing room adjacent, where the

## THE WAR DEMONSTRATION HOSPITAL



*July 23—A Completed Ward*

patients' pedigrees are taken, where they are undressed, washed and put into hospital clothes.

Soiled clothing is transported in bags on wheeled frames to the laundry building for disinfection and washing; it is then returned to the storage room at the right end of the Receiving Building. Discharged patients return to this building, where their records have been kept, secure their valuables and clothing, dress in the small room adjoining the office, and turn in their hospital clothes.

The surgeon on duty in the Receiving Building has a small office. He keeps first aid supplies there, in case they are

needed to replace a dressing. He examines all arriving patients and determines the order in which they are to be bathed and sent into the operating room or wards.

### *The Operating Pavilion*

The Operating Pavilion is of especial interest in a war hospital. For this building, 105 feet in length, the wider type of unit, 28 feet wide with walls 10 feet high, has been adopted. The building lies east and west, so as to insure north light all along one side.

Of the two entrances, one to the east is reserved for doctors, nurses and orderlies,



## THE WAR DEMONSTRATION HOSPITAL



*The Completed Kitchen*

and the other for patients. Orderlies coming for their supply of sterile bandages for the wards do not pass beyond the vestibule at the east entrance.

At the east end is a large work room for nurses, and next to it a sterilizing room easily accessible from the Operating Room. Scrub-up basins are in the Operating Room.

The Etherizing Room, almost directly opposite the patients' entrance, gives access both to the Operating and Plaster Rooms, while the west end of the building is occupied by the X-Ray service, with dark room, demonstration, and storage room.

### *The Ward Pavilions*

The plan of the wards follows very closely that of an ordinary surgical hospital of peace times. Running north and south, the services are grouped at the north end, so as to allow the free entrance of the winter sun at the south end. This arrangement, while not a necessity in southern climates, is most desirable in a country like France, where every ray of sunlight is precious.

At the south end of the ward is a terrace, covered in summer by awnings. Patients' beds may be wheeled on to this even before they are convalescent.

## THE WAR DEMONSTRATION HOSPITAL

At the northern or service end of the ward the Nurses' Office and linen room adjoins the ward on the west side of the corridor. This room has glazed sash to permit the nurses to watch the ward and the Isolation Room. The Diet Kitchen, containing steam table with electric cooker, sink, refrigerator and dresser, adjoins the Isolation Room on the same side of the corridor.

At the east side of the corridor next to the ward is the bedpan sink room; next are the patients' toilets and lavatories, the sterilizing room, the bathroom and the housemaids' sink room, containing the soiled clothes bags, brooms, mops, etc. As all dressings are made in the wards, no surgical dressing room is required.

The bath tub is so placed in the bath room that a stretcher may be run into the room.

On each side of the ward, two wall panels hinged at the bottom are arranged to swing out to permit of rapid exit from the building in case of fire. These openings also furnish additional ventilation in hot summer weather.

The cow-barn type of window shown in the illustration on page 12 is particularly practical for such ward pavilions.

### *The Isolation Building*

The small Isolation Building requires no extended description. The vestibule gives access to the Diet Kitchen by a window, below which is the combined steam table, sterilizer and electric cooker.

The movable tub is placed in the hallway ready to be wheeled into any room

in which it may be needed. A goose-neck for filling this up and safe for emptying, also bedpans and housemaids' sinks are placed just inside the door from the vestibule.

### *The Recreation Pavilion*

To the north of the wards, on the Avenue A side of the service court is the Recreation Building, consisting of a small library and a reading and recreation room for convalescent patients.

### *The Mess Hall*

Adjoining the Recreation Building to the east is the Mess Hall, a double building with one end for nurses and the other for orderlies, and with independent coat rooms and pantries.

### *The Kitchen Pavilion*

The kitchen is planned with the entrance for supplies on the service court, the checking office being just inside the door, with vegetable storage adjoining. Directly opposite the door is the refrigerator, with the grocery and milk room on one side and the meat room on the other. The steam kettle, vegetable steamer and cereal cooker, placed back to back with the coal range, are in the center of the room. The vegetable preparation room is on one side and the bakery on the other.

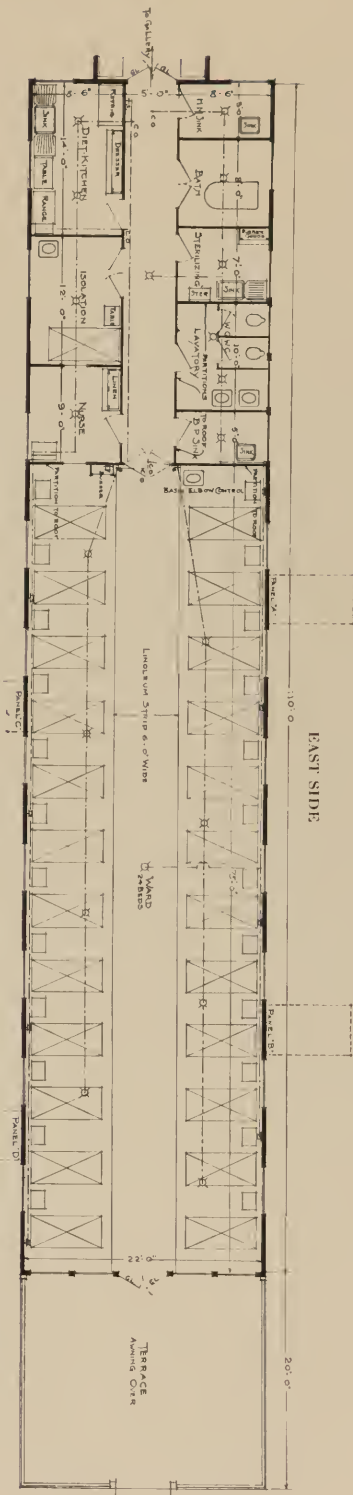
The part of the kitchen open to orderlies and nurses is reached from the connecting corridor. It contains the dish washer, to which all china is brought back from the wards and mess rooms; after being washed it is stored under the cook's tables which form a counter separating

# THE WAR DEMONSTRATION HOSPITAL

NOTE:—All partitions to stop at height of wall plate except as noted on plan

## WARD PATILION

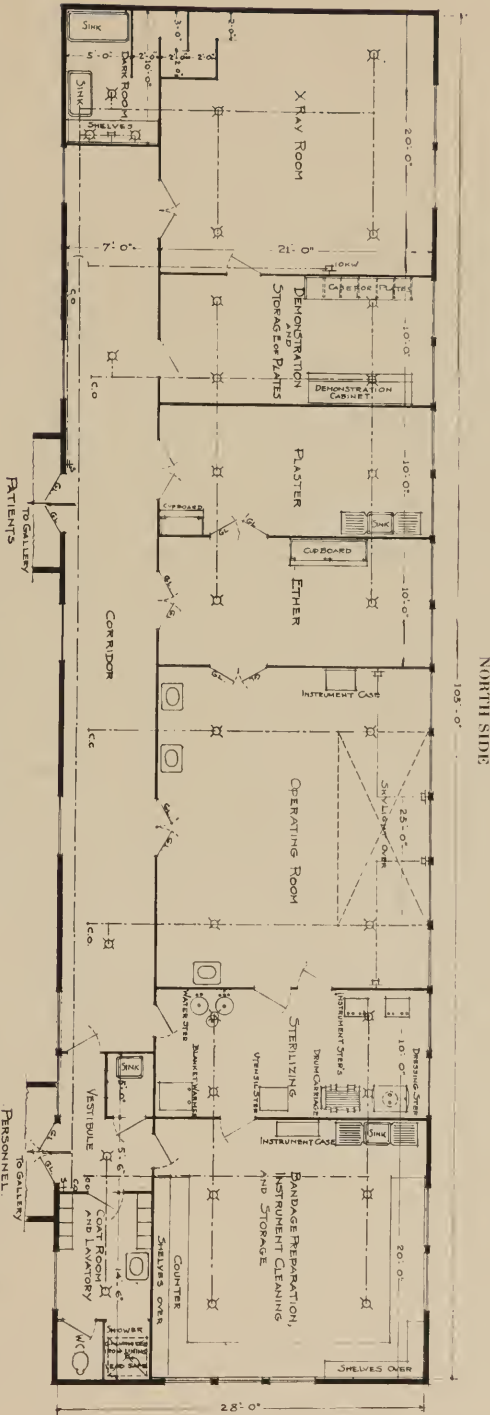
NOTE:—Wall panels "A," "B," "C," "D" to be hinged at bottom, swing out, to give fire exits and extra ventilation



NOTE:—Shower Bath Compartment to be galvanized iron lined and to have lead-lined safe

## OPERATING PAVILION

NOTE:—All partitions in this portion doubled, painted and carried to roof





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the public space from the kitchen proper. Food cars remain in the kitchen between meals, and pick up their loads at the pastry table, tea and coffee urns and cooks' tables.

Refrigeration is supplied to the storage boxes in the Kitchen Building by a portable ice machine of American manufacture such as has already been put into operation in France.

### *The Laundry Pavilion*

The Laundry Building has two receiving rooms, one for infected clothing, linen and bedding, which must pass through either the sterilizing washer or the steam and formaldehyde sterilizer, and the other for ordinary soiled linen.

Mattresses and pillows after sterilization are stored at the west end of the building, while the linen after drying and pressing is stored near the east end on tables and in bins. The mending room and small storage room are placed at the extremity of the building.

The Stores Building at the northwest corner of the property consists of a large open storeroom, one side of which is furnished with racks for small objects, and the other half left for heavy storage, for a small carpenter and paint shop, and a small office for the storekeeper.

### *The Nurses' Pavilion*

The Nurses' Building contains a small sitting room with pantry and electric cooker, bedroom and bath for the superintendent, twelve single and two double bedrooms for nurses. Bath tubs, toilets, slop sink and lavatories and a small linen

and store closet complete their accommodations.

### *The Maids' Building*

The Maids' Building is similar, but with more double and less single rooms.

The Orderlies' Quarters are divided into a large dormitory and a few rooms for sergeants, a sitting room and a room for cleaning equipment, boots, etc.

## IV

### CONSTRUCTION OF THE BUILDINGS

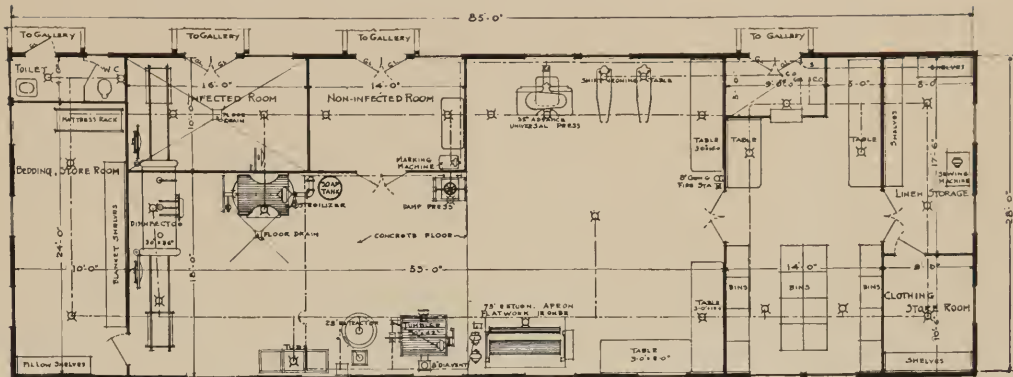
With the exception of the Stores Buildings, which is of ordinary shack construction, all buildings are of portable house unit construction. Walls, floors and roofs are formed of wooden panels, except in the Operating, Kitchen and Laundry Buildings where concrete has been used.

In the early days of the war such buildings were erected with a single thickness of material for walls, but it very shortly became apparent that the walls must be double with an air space between the outer and inner sheathing. At the same time the desirability of double roofs and floors was recognized. The French have found that even a double-walled tent is preferable to the single-walled building.

### *The Humphreys System*

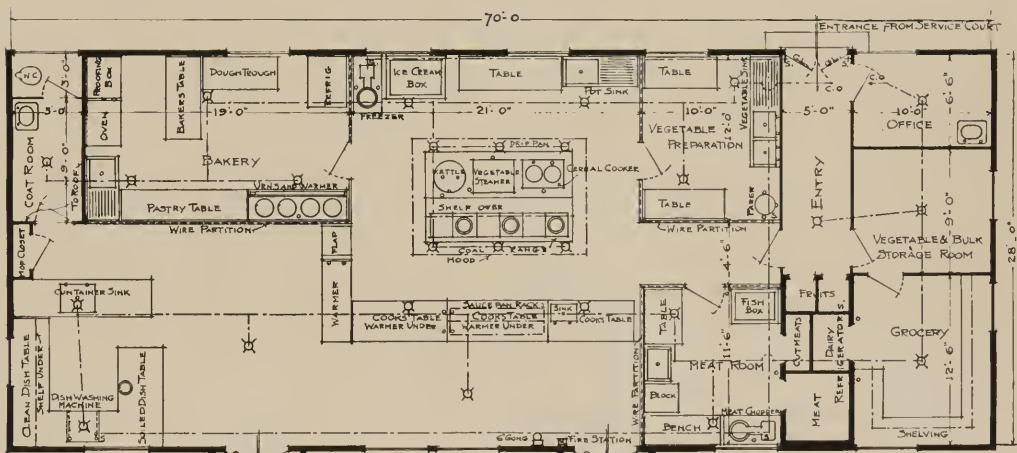
A study of the various types of construction led, as has been stated, to the adoption of the Humphreys system, a patented English type which has been

# THE WAR DEMONSTRATION HOSPITAL



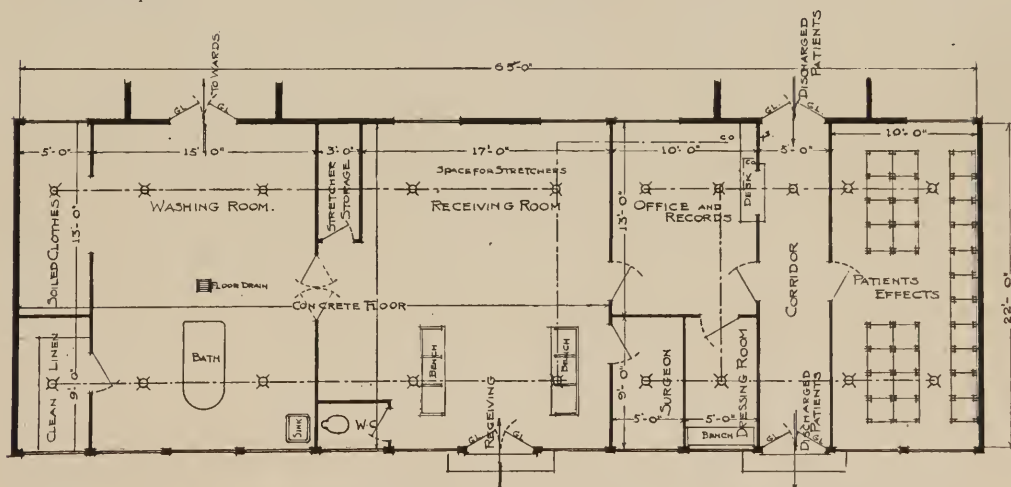
NOTE:—All partitions to run to height of wall plate

LAUNDRY PAVILION



NOTE:—All partitions to run to height of wall plate except as noted on plans

KITCHEN PAVILION



NOTE:—All partitions to run to height of wall plate

RECEPTION PAVILION

NOTE:—Concrete floor in Receiving room, Washing room, clean linen, soiled clothes

## THE WAR DEMONSTRATION HOSPITAL

employed in the base hospitals of the British Red Cross and St. John's Guild at Etaples, south of Boulogne.

The system has been very considerably modified at the suggestion of Messrs. Marc Eidlitz & Son, the contractors for this work, and Messrs. Sloane & Moller, who have built the panel sections, both concerns having suggested various improvements, which make the system fit more closely with American methods of construction.

Under the plan employed, the panels of walls, roofs and floors are all of the same dimensions, so that any panel may be substituted for any other.

### *Light Steel Trusses Used*

Many "portable systems" which employ in part the unit method, abandon it when it comes to roof trusses, which they space only every second or third panel. But in this case the trusses are made lighter and spaced one to every section, so that the trussing is also on a strictly unit basis. This would of course be possible were the trusses of wood, as the succession of heavy wooden members would decidedly lower the apparent ceiling height. This problem is thus solved by the use of exceedingly light steel rods as trusses. The upper member is of 2 x 6 inch spruce with 1 x 2 inch strips nailed on either side to carry the roof panels. The struts are  $1\frac{1}{2}$  x  $1\frac{1}{2}$  x  $\frac{5}{8}$  inch steel angles, and the tie rods  $\frac{3}{16}$  inch round.

The connection between post and rafter is formed by  $\frac{1}{8}$  inch gusset plates set in a saw cut made in both members. The plate is drilled with five holes, two each

for bolts through the rafter and the post and one for the bent end of the tie rod. Similar gusset plates form the connections between rafters at the ridge, the three gusset plates forming an efficient wind brace. These steel parts are all easily obtainable stock material.

### *Transverse Girders Support Floor*

Likewise the flooring is supported by 2 x 6 inch transverse girders, placed five feet apart, corresponding to the posts and trusses, and bolted to the posts. These girders are supported on the exterior sills and by two intermediary sills in the case of the 22-foot building. To each girder, near the bottom, a 1 x 2 inch strip is spiked on either side to carry the floor panels.

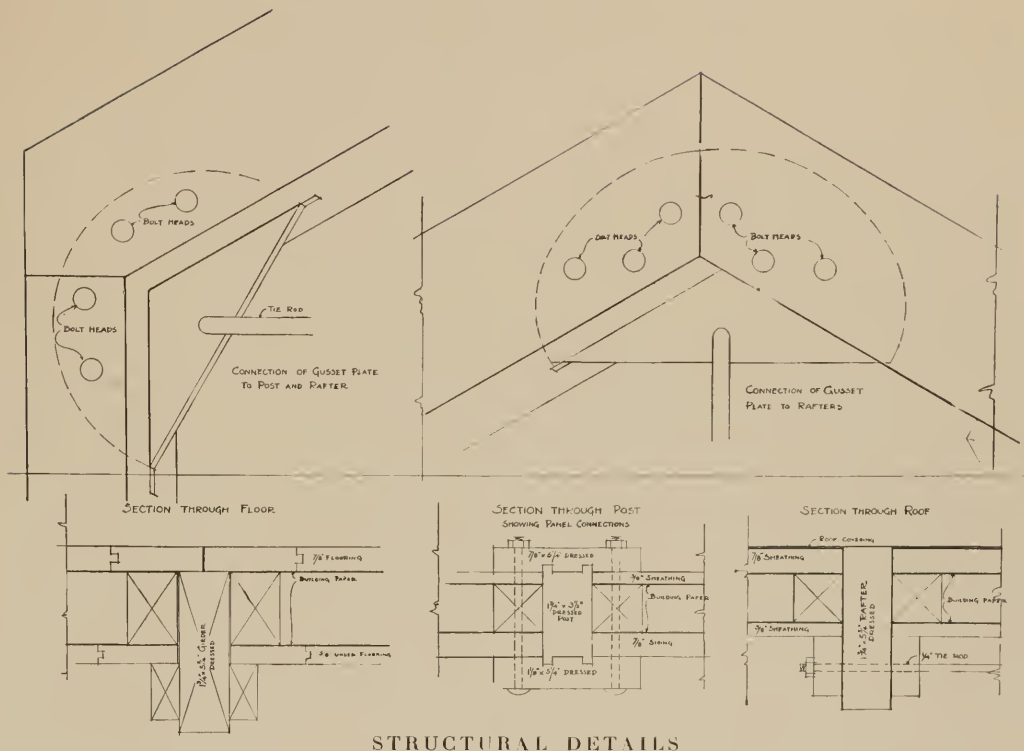
The exterior sills, 2 x 6 inches, laid flat, are supported on 4 x 4 inch posts carried about two feet below grade and resting on 12-inch square bases of two-inch planking. The intermediary sills are supported on similar posts, but without bases; the sharpened ends are driven about 18 inches into the earth.

Before erection the girders are bolted firmly to the posts, so that truss, post and girder form a complete whole. The erection thus becomes a relatively simple affair, and one in which it is difficult to go astray.

After the end truss has been set up and temporarily braced in position the first wall panel is slipped into place, then the second truss and the second wall panel, while the roof and floor panels follow close behind. The wall panels give the exact spacing to the posts and are fastened to them by a system of bolts.



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STRUCTURAL DETAILS

The post itself is a composite member, formed of a 2 x 4 inch dressed stud with a 1¼ x 5 inch outside, and a 1 x 5 inch inside dressed cover strip, both ploughed out to make a tight joint with the post. The ends of the panels are shoved into the mortise formed by the post and its strips, and bolts are then run through the cover strips from out to in, holding the panels firmly to the posts and preventing the opening up of joints.

### *How Roof Panels Are Supported*

The roof panels are supported on strips spiked to the rafters. It was, however, necessary to devise a method of holding the panels rigidly in place, and the scheme adopted consists of a ¼ inch

steel tie rod extending from one truss to the next, with nuts screwed up tight so as to prevent the trusses from spreading and thus letting the panel drop.

In the case of the single thick roof used in kitchen and laundry, the adjoining panels are held together by bolts passing through the intervening rafter, a simpler method, but one that is not feasible when the roofs are double, as they should be in all inhabited buildings.

The panels themselves are built up as follows:

The wall panel, five feet wide, is framed of 2 x 2 inch stuff, three uprights with four cross braces in all. The outer side is sheathed with ⅞ inch siding over building paper, while the inside sheathing is ⅜ inch

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tongued and grooved ceiling running vertically. The roof panels, divided into two sections for easy handling, are framed in a similar manner to the wall sections.

The floor sections, each 5 feet by 7 feet 4 inches, in the 22-foot buildings are framed with 2 x 3 inch timber and have two thicknesses of building paper as have the walls and roofs.

A sloping water table, notched out for the posts, serves as a guide and support during erection, and later the space below the water table is sheathed down to the grade.

The partitions are also of unit construction; in general they are of 7.8 inch tongued and grooved sheathing with beveled battens at top, bottom and middle. The partition rests on a grooved beveled base and receives a grooved cap, beveled on top in the case of the partitions which are not carried to the ceiling.

The height of partitions in general is the same as that of the walls, either 8 or 10 feet, but where partitions must be carried to the roof additional units are provided, set on top of the partition cap. The fitting in of these upper sections of partitions, running up to the under side of the roof, is an unsatisfactory detail of the system of construction.

### *Rooms Open Up to Roof*

On the other hand, the reduction of height permitted by the fact that the roof is double and that all rooms extend up to the roof is a source of economy when compared with the height required where rooms are ceiled over at the height of the eaves.

If the ward buildings were ceiled across

at the height of the eaves, it would be necessary to raise the walls from 8 feet to a height of over 10 feet in order to secure the same cubic feet of air. There would then be a corresponding increase of the total height of the building, and of the material to be paid for and transported, and with rather less satisfactory ventilation.

Ordinary metal ventilators are provided at the ridge in the open wards, over toilet rooms, etc., and continuous monitor ventilators in the kitchen and laundry.

\* \* \*

Two advantages which this construction possesses and which are probably worth emphasizing are the steel trusses and the type of windows with lower sash fixed and upper sash hinged at the bottom to swing in, provided in the case of the wards with cheek pieces to prevent draughts.

This arrangement makes the spacing of beds entirely independent of the windows, a feature not to be disdained in a war hospital, where at the moment of an attack the number of beds per ward may be increased twenty-five or thirty per cent.

\* \* \*

The unit employed in this system is five feet in length, either eight or ten feet in height, the windows in the ten-foot units having three sashes instead of two. The standard widths of this system are 16, 22 and 28 feet.

Thus a building may be erected of either of these widths and in length any multiple of five feet, this five-foot unit being probably the most practical—the panels are small enough to be easily

## THE WAR DEMONSTRATION HOSPITAL

handled, and yet large enough to permit of an ample window or double doors in one panel. Admiral Sims is reported to have ordered buildings of this type of construction for the American naval base in England.

### *The Heating, Lighting and Plumbing*

Steam is furnished by the power house of the Institute, the pipes being placed in the roof of the connecting corridors.

Laundry and kitchen, operating and sterilizing rooms are similar in equipment to those of any modern hospital.

The heating is by pipe coils, which were adopted in preference to radiators, as being less liable to breakage if it became necessary to transport and re-erect the hospital. The hot water supply for the various buildings is furnished by steam coil tanks, so placed that one tank supplies a group of three or four buildings, the length of runs being thereby much reduced.

For a Field Hospital the plumbing system must perforce be simplified, as must the heating system. Probably the best method of heating is the employment of small low pressure boilers, each arranged to heat a group of three or four buildings.

Stoves are objectionable from every point of view, dirty, dangerous and wasteful of coal, and in more and more hospitals are being replaced by steam heat. There should also be a high pressure boiler to care for sterilizing and perhaps also for cooking and washing in the case of a large Field Hospital.

The plumbing is that of a permanent hospital, but with the suppression of all

elaboration; the electric wiring is exposed throughout, the fixtures except in wards and operating building being merely bulbs with painted tin reflectors.

### *Hospital Has Telephone System And Fire Protection*

The hospital has a complete intercommunicating telephone system and a fire-alarm system with watchman's clock. Hydrants and fire extinguishers are placed in convenient locations outside and within the building.

If an ample water supply were not available the fire-hydrant system might be replaced by an equipment of extinguishers, including a small chemical engine.

\* \* \*

Matters of construction and equipment have been described in order to bring out the fact that base hospitals are to-day being built and equipped to give the best of surgical care to patients who can be almost as comfortable as if they were in permanent hospitals. Some discomfort is unavoidable, but much progress has been made by Great Britain and France in the planning of base and field hospitals.

The experience of three years of war has shown that many lives and limbs may be saved if proper hospitals are provided. It has also proved how much our losses will be increased if we try to get along with inadequate equipment. Neither side could continue the present war unless its hospitals could return a large percentage of patients to active service.

### *A Modern Field Hospital*

While the Rockefeller War Demonstration Hospital is a base hospital, a modern



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field hospital is composed of buildings of the same type, provided, of course, buildings are used.

Connecting corridors at a base hospital would naturally not be closed, and in most cases would not be covered, but the slat walk connecting all buildings by inclines and without steps should always be present.

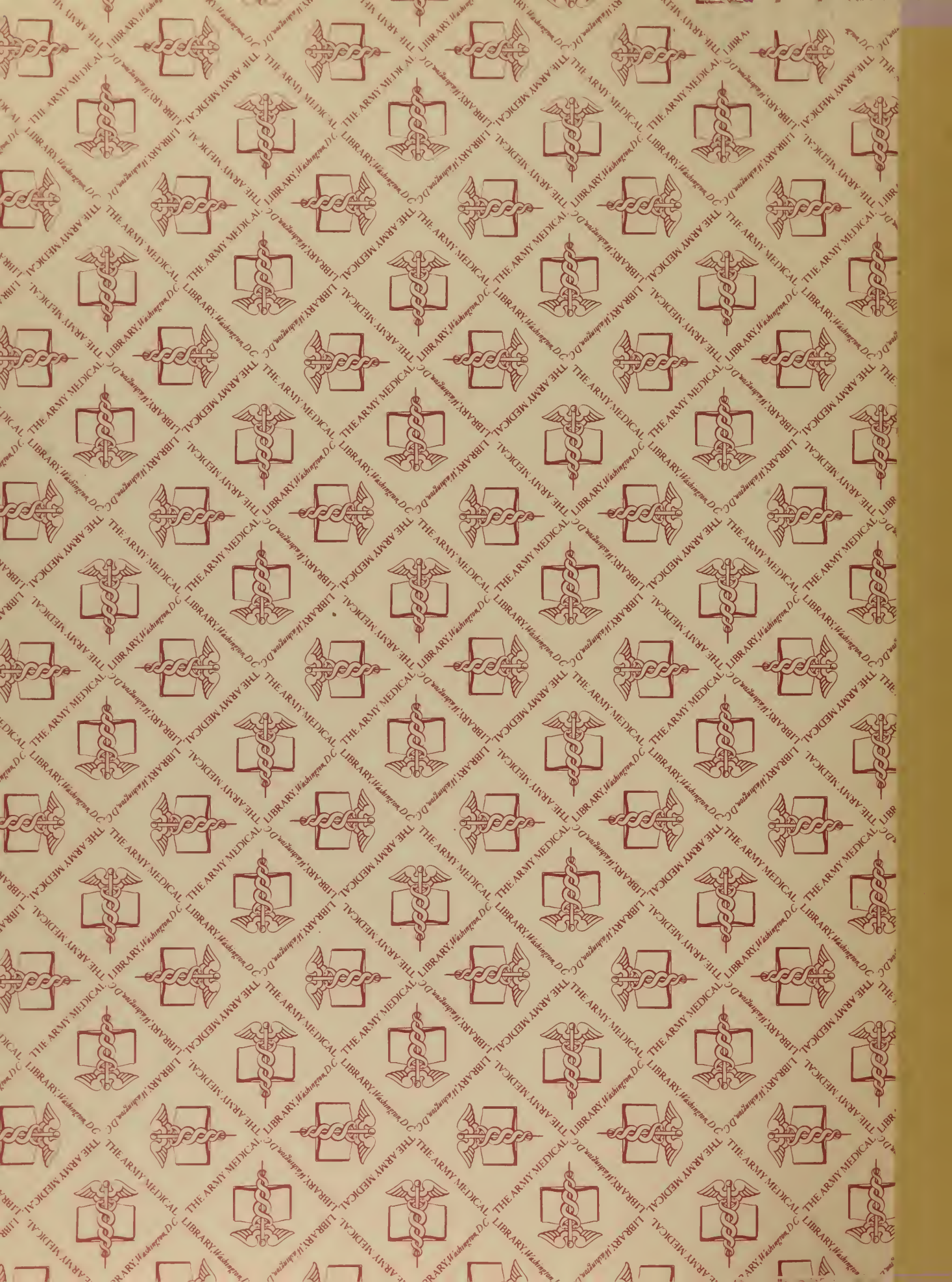
The portable ice machine installed in the temporary hospital is, as has been said, like those which are being shipped abroad for use in base hospitals. Ice for field hospitals would doubtless be distributed from a base rather than manufactured on the spot. The electric installation would

of course be the same for the field as for the base hospital, including X-Ray equipment.

### *Time of Construction*

The erection of the Rockefeller Hospital was commenced on June 1st, and the buildings completed ready for occupancy by July 13th. This result was achieved in six weeks due to the intelligent handling of the work by the general contractors, and the hearty co-operation of each and every trade employed on the work. The record shows how quickly this form of construction can be handled.







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